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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,262	01/19/2004	John J. Kondratuk	4470-00716	6916

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EXAMINER
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MORRISON, THOMAS A

ART UNIT	PAPER NUMBER
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3653

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/759,262

Applicant(s)

KONDRATUK ET AL.

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 22-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-21 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/03/2006
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/3/06 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuzniak in view of Louis et al. In particular, Kuzniak in view of Louis et al. meets all of the limitations of claims 1-5 and 7-12.

Regarding the independent claim 1, Figs. 1-4 of Kuzniak disclose a self-valving vacuum distribution system for a sheet transfer apparatus including

a vacuum plenum (1) having a flat surface (bottom surface) over which spaced rotating members (11) operate to define an open vacuum channel (3); and,

vacuum control valves (including 9a and 9b) spaced along the channel (3) in the flat plenum surface, the valves (including 9a and 9b) held closed and sealed by a high pressure differential between the vacuum plenum (1) and the open vacuum channel (3)(see, e.g., column 4, lines 38-42 for an explanation of the claimed high pressure differential) when no sheet is present thereon, and biased to open under a reduced pressure differential between the vacuum plenum (1) and the vacuum channel (3)(see, e.g., column 2, lines 30-33 and column 4, lines 59-66 for an explanation of the reduced pressure differential), the reduced pressure differential provided by a plenum vacuum connection between an upstream end of the vacuum channel (3) and the vacuum plenum (1) when the channel is covered by a sheet (13) carried over the channel (3). As best understood, Figs. 2 and 3 show a plenum vacuum connection to the upstream end (near 6a) of the vacuum channel (3) when the channel (3) is covered by a sheet (13), as claimed. The open vacuum channel permits the plenum vacuum to move downstream as the channel is covered, thereby progressively reducing the pressure differential to the reduced level allowing the valves to be biased open sequentially. See, e.g., column 2, lines 44-47 and column 4, line 58 to column 5, line 13. Kuzniak includes rotating members (11) that convey the sheets (13), but does not disclose that the rotating members are conveyer belts, as claimed.

Louis et al. discloses a conveyer apparatus that includes a support with controlled suction valves (including 16 and 17) and a plurality of spaced apart conveyer belts (6) surrounding the support. More specifically, Louis et al. explains that, it is necessary for sheets to be positioned accurately in relation to each other on the

conveying apparatus, and for them to follow exactly the motion of translation communicated to them by the conveyor in time and space. After this, Louis et al. explains that several different types of arrangements of rotating devices are suitable to perform this operation. See column 1, lines 12-42. It would have been obvious to one of ordinary skill in the art at the time of the invention, to substitute rotating devices (11) of Kuzniak with spaced apart belts, because this merely involves replacing one type of conveying device with another type of conveying device that is equally suitable for controlling the positioning of sheets, as taught by Louis et al.

Regarding claim 2, Figs. 1-4 of Kuzniak show a vacuum starter opening (7) in the plenum flat surface upstream of the control valves (including 9a and 9b) providing initial vacuum communication between the plenum (1) and the upstream end of the vacuum channel (3).

Regarding claim 3, Fig. 1 of Louis et al. shows that it is well known to provide a conveying apparatus with an infeed device (including 2) adapted to move a line of spaced sheets (3) in series into contact with the conveyor belts (6). Louis et al. explains that such a device cuts and feeds sheets. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the Kuzniak apparatus with such a device in order to cut sheets into required widths and then feed the sheets, as taught by Louis et al. See column 2, lines 10-18. Providing such a device on the Kuzniak apparatus will result in the leading edge of each sheet to override the vacuum starter opening (7) of Kuzniak and each control valve of Kuzniak in succession. See, e.g., Fig. 3 of Kuzniak.

Regarding claim 4, Kuzniak discloses that the passage of a trailing edge of each sheet (13) over the control valves (including 9a and 9b) causes the valves to progressively close. See, e.g., column 4, lines 38-52.

Regarding claim 5, Figs. 1 and 2 of Louis et al. show that the conveyor belts (6) have flat coplanar conveying surfaces and show that providing the conveyor belts (6) on the Kuzniak apparatus according to the teachings of Louis et al. will result in the plenum flat surface being between the belts and being recessed from the conveying surfaces to form the vacuum channel.

Regarding claim 7, Fig. 2 of Louis et al. shows that it is well known to provide a conveying apparatus with a plurality of laterally adjacent vacuum channels (13), that each channel (13) provides support for an incremental width of a sheet (3), and that a vacuum plenum (15) is operatively connected to the adjacent vacuum channels. Fig. 2 shows that such an arrangement allows a plurality of sheets to be conveyed at the same time. It would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the Kuzniak apparatus with laterally adjacent vacuum channels in a manner as taught by Louis et al. to convey a plurality of sheets at the same time, as taught by Louis et al.

Regarding claim 8, Figs. 1-4 of Kuzniak show that each of the control valves (including 9a and 9b) includes a vacuum opening in the plenum flat surface providing vacuum communication between the plenum (1) and the vacuum channel (3), and a valve plate (e.g., 9a) attached to the plenum surface (near 10a) and operative to seal the vacuum opening against the valve bias at the high pressure differential.

Regarding claim 9, Fig. 2 of Louis et al. shows that it is well known to provide a conveyer apparatus with adjacent vacuum channels (13) that are all connected together. As such, providing multiple vacuum channels of the Kuzniak apparatus adjacently in a manner as taught by Louis et al. will result in an arrangement in which a starter vacuum conduit (near 1a) of Kuzniak, which is controlled by the upstreammost control valve (e.g., 9a), provides the plenum vacuum pressure to the starter opening of the next laterally adjacent vacuum channel when the sheet (13) is wide enough to cover the next adjacent vacuum channel. In particular, the starter channels of the adjacent arrangements will be connected together as taught by Louis et al.

Regarding claim 10, as mentioned above, Louis et al. shows that it is well known to provide a conveyer apparatus with adjacent vacuum channels (13) that are all connected together. As such, providing a plurality of the vacuum channels of the Kuzniak apparatus adjacently in a manner as taught by Louis et al. will result in the starter vacuum conduit (near 1a) of Kuzniak including a vacuum inlet end (near 9a) in the plenum flat surface and a vacuum outlet end having an open connection to the vacuum starter opening in the next adjacent vacuum channel. More specifically, the adjacent channel arrangements will all be in communication with each other. Also, the valve plate (e.g., 9a) will be operative to close the inlet end (e.g., near 9a) at the high pressure differential and to open the inlet end at the reduced pressure differential.

Regarding claim 11, as mentioned above, Louis et al. shows that it is well known to provide a conveyer apparatus with adjacent vacuum channels (13) that are connected together. As such, providing a plurality of the vacuum channels of the

Kuzniak apparatus adjacently in a manner as taught by Louis et al. will result in a starter vacuum conduit connecting the plenum surfaces of each pair of laterally adjacent vacuum channels. More specifically, all of the adjacent channel arrangements will be in communication with each other, as taught by Louis et al.

Regarding claim 12, again, Louis et al. shows that it is well known to provide a conveyer apparatus with adjacent vacuum channels (13) that are connected together. As such, providing a plurality of the vacuum channels of the Kuzniak apparatus adjacently in a manner as taught Louis et al. will result in a vacuum starter opening in each third vacuum channel and starter vacuum conduit operatively connecting each vacuum starter opening with the next two adjacent vacuum channels. More specifically, Louis et al. appears to show adjacent vacuum channels (13) are all the same and that are connected together. As such, providing a plurality of the vacuum channels of the Kuzniak apparatus adjacently in a manner as taught by Louis et al. will result in the Kuzniak apparatus having adjacent vacuum channels that are all the same and all in communication with each other. In other words, every vacuum channel will have a starter opening and a starter vacuum conduit in communication with all of the other adjacent vacuum channels. With every vacuum channel being the same, every third vacuum channel will satisfy the claimed limitation.

***Allowable Subject Matter***

3. Claims 13-21 are allowed. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



***Response to Arguments***

4. Applicants' arguments filed July 8, 2005 have been fully considered but they are not persuasive.

**Applicants argue**

In this regard, and as now believed to have been made even more clear in the amendments to claims 1 and 13, with the blower in operation and with no sheet present on the conveyer belts, applicants' control valves 34 are held closed and are effectively sealed against leakage. As a result, the air flow is limited to the starter openings 30 and is substantially lower at this stage of operation than Kuzniak. In Kuzniak, by comparison, with no sheet present on the apparatus, all of the valves or obturators 9A, 9B, etc. are wide open resulting in a tremendously high air flow (i.e., beyond the value indicated by point C in the Fig. 7 graph of Kuzniak).

This important distinguishing feature of applicants' apparatus has been clarified by the foregoing amendments to claims 1 and 13 that now unequivocally recite that the vacuum control valves are closed when there is no sheet present over the plenum surface. Again, this is completely opposite the Kuzniak device where, at the starting point, all of the valves are open.

In addition, when the vacuum control valves 34 of applicants device are closed, they are effectively sealed against air loss. This also contributes to the low air flow requirements of applicants' device. In Kuzniak, by comparison, the valves (obturators) 9A, 9B, etc. or the equivalent devices in alternate embodiments, always leak substantially and, as noted in applicants prior response, this high leakage permits the Kuzniak system to achieve nearly full plenum vacuum even before the valves are fully open.

In response, it is noted that claim 1 now recites "**vacuum control valves** spaced along the channel in the flat plenum surface, **said valves held closed and sealed** by a high pressure differential between the vacuum plenum and the open vacuum channel **when no sheet is present thereon**". (emphasis added). This limitation can be interpreted to mean that some vacuum control valves are held closed and sealed, when

no sheet is present on such control valves. Fig. 3 of Kuzniak shows some control valves (near reference numeral 8) are held closed and sealed when there is no sheet present on such control valves. Not all control valves (e.g., valves near reference numeral 11a) on the device have to be held closed and sealed to anticipate independent claim 1. Also, the term "seal" is very broad. The dictionary defines the term "seal" as, "to close by any form of fastening that must be broken before access can be gained". See Webster's Encyclopedic Unabridged Dictionary of the English Language (1996), at page 1726. Fig. 3 of Kuzniak shows a plurality of valves (near numeral 8) that are held closed and sealed (i.e., the pressure difference must be broken before access through the valves can be gained), when no sheet is present on such valves. As such, all of the limitations of claim 1 are met. The rejections of the dependent claims are outlined above.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

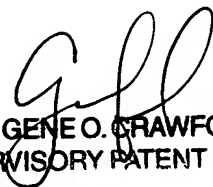
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05/29/2006

  
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SUPERVISORY PATENT EXAMINER